

KERANGKA KOMPETENSI “*K-WORKERS*” INDUSTRI DI BATAM

TEGUH IMAN SANTOSO

Tesis ini dikemukakan sebagai  
memenuhi syarat penganugerahan  
Ijazah Doktor Falsafah Pendidikan



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PERPUSTAKAAN TUNKU TUN AMINAH

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Dedicated

To my beloved wife, Ernawati  
and dearest children, Alam, Bijak and Zahra

**Motto:**

“Hai orang yang beriman, minta tolonglah kamu dengan sabar dan sembahyang.  
Sesungguhnya Allah beserta orang-orang sabar”  
(QS. Al-Baqarah 153)

“Demi masa.

Sesungguhnya manusia itu dalam kerugian.

Kecuali orang-orang yang beriman dan beramal salih dan  
berpesan (nasihat-menasihati) dengan kebenaran dan berpesan dengan kesabaran”  
(QS. Al’Ashr 1-3)



## PENGHARGAAN

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## ABSTRAK

Kompetensi *k-workers* amat diperlukan oleh mahasiswa di dalam dunia pekerjaan di industri. Tinjauan terhadap kajian literatur menunjukkan bahawa ada beberapa model yang dapat dijadikan asas dalam membentuk kompetensi mahasiswa. Objektif kajian ini adalah untuk membangunkan kerangka model kompetensi bagi mahasiswa yang sesuai dengan alam pekerjaan di industri. Metodologi penyelidikan merangkumi kaedah kualitatif dengan berdasarkan data-data kuantitatif. Reka bentuk kajian ini adalah *exploratory sequential* dengan menggunakan teknik *Modified Delphi* dari pakar dalam bidang elektrik & elektronik bagi mendapatkan data kualitatif, manakala soal selidik bagi mendapatkan data kuantitatif diedarkan kepada mahasiswa di empat universiti di Batam. Analisis data demografi, analisis deskriptif, dan analisis data kualitatif hasil temubual. Analisis *Structural Equation Modelling* digunakan bagi pengesahan model. Kerangka kompetensi *K-Workers* dihasilkan melalui kesesuaian data pakar dan maklumbalas kalangan mahasiswa. Dapatan kajian menunjukkan bahawa dimensi dan elemen-elemen kompetensi yang diperlukan mahasiswa. Cadangan kerangka kompetensi “*k-workers*” dilaksanakan kepada mahasiswa fakulti teknik dari empat universiti yang ada di Batam dan diuji keberkesanannya. Kepentingan kajian ini meliputi Institusi pendidikan dan pelatihan, Industri dan Pemberdayaan Pekerja, Penyelenggaraan pengujian dan pensijilan.

## ABSTRACT

K-workers' competence is very much needed by students in the world of industrial work. A review of the literature review shows that there are several models that can serve as a basis for developing student competencies. The objective of this study is to develop a competency model framework for students who are aligned with the nature of their work in the industry. Research methodology involves qualitative methods based on quantitative data. The design of this study was exploratory sequential using Modified Delphi technique from experts in electrical & electronics to obtain qualitative data, while the questionnaire for obtaining quantitative data was distributed to students at four universities in Batam. Demographic data analysis, descriptive analysis, and qualitative interview data analysis. Structural Equational Modeling Analysis is used for model validation. The K-Workers' competency framework is created through the appropriateness of expert data and feedback from students. The findings show that the dimensions and elements of competency that students need. The proposed k-workers' competency framework was applied to engineering faculty from four universities in Batam and tested its effectiveness. The interests of this study include Institutions of education and training, Industry and Employee Empowerment, Test and certification.

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- I Soal Selidik Kajian



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## SENARAI SINGKATAN

AFTA	<i>Asean Free Trade Area</i>
BNSP	Badan Nasional Standar Profesi
CFA	<i>Confirmatory Factor Analysis</i>
FGD	<i>Focus Group Discussion</i>
GATS	<i>General Agreement on Trade and Services</i>
GDP	<i>Gross Domestic Product</i>
ICT	<i>Information and Communications Technology</i>
IQF	<i>Indonesian Qualifications Framework</i>
KADIN	Kamar Dagang dan Industri
KDNK	Keluaran Dalam Negara Kasar
KKI	Kerangka Klasifikasi Indonesia
KKN	Kerangka Kelayakan Nasional
KKNI	Kerangka Kualifikasi Nasional Indonesia
LSP	Lembaga Sertifikasi Profesi
MEA	Masyarakat Ekonomi Asean / <i>Asean Economic Community</i>
MOSS	<i>Model Occupational Skill Standard</i>
MUK	Materi Uji Kompetensi
NAKERTRANS	Kementerian Tenaga Kerja dan Transmigrasi
OECD	<i>Organization for Economic Cooperation and Development</i>
PJP	Pembangunan Jangka Panjang
PNPM	Program Nasional Pemberdayaan Masyarakat Mandiri
RJPM	Rencana Pembangunan Jangka Menengah
RJPMN	Rencana Pembangunan Jangka Menengah Nasional
RMCS	<i>Regional Model Competency Standard</i>
SDM	Sumber Daya Manusia



SEM	<i>Structural Equation Modelling</i>
SISLATKERNAS	Sistem Latihan Kerja Nasional
SKKNI	Standard Kualiti Kerja Nasional Indonesia
TAM	<i>Technology Acceptance Model</i>
TUK	Tempat Uji Kompetensi
TVET	<i>Technical Vocational on Educational and Training</i>



## **BAB 1**

### **PENDAHULUAN**

Bab ini menerangkan tentang latar belakang daripada pemerhatian dan pemantauan berkaitan dengan latihan dan penghasilan sumber manusia di peringkat institusi pendidikan tinggi, diikuti dengan gambaran dari penghasilan *K-workers* (Pekerja berpengetahuan) di Indonesia. Bab ini juga membincangkan beberapa masalah *K-workers* dan mengaitkan dengan tujuan penyelidikan yang kemudian akan menghala kepada pembentukan pernyataan-pernyataan penyelidikan. Kemudian bab ini juga menjelaskan manfaat penyelidikan. Selanjutnya bab ini juga menerangkan kerangka penyelidikan yang akan memberikan gambaran jelas tentang bagaimana penyelidikan ini dilaksanakan. Rumusan bab ini mengulas tentang struktur tesis ini dan cara persembahan tesis bagi memudahkannya untuk difahami.

#### **1.1 Pengenalan**

Penghasilan sumber manusia Indonesia yang mempunyai kompetensi sebagai mahasiswa berkualiti merupakan salah satu peranan yang dimainkan oleh Institusi Pendidikan Tinggi di negara Indonesia. Musliar Kasim, wakil menteri pendidikan dan budaya Indonesia, pada persidangan TVET daerah ke-2 tahun 2014 berkata: “Masih banyak cabaran yang harus dilalui pada pelatihan pendidikan teknik dan vokasional seperti kurangnya pekerja yang berpengalaman, terbatasnya pelatihan berasaskan industri secara langsung pada pendidikan menengah (vokasional) dan perguruan tinggi dan juga peraturan yang menghalang pelajar dari institusi mendapatkan pengalaman kerja sebenar di industri sehingga ke hari ini.”

Kemudahan pendidikan pada umumnya masih tidak dapat dilaksanakan secara meluas kepada seluruh daerah dan biasanya hanya berpusat di bandar-bandar besar. Kejadian yang sama juga berlaku dalam proses pendidikan dan pembangunan sumber manusia. Pusat disediakan bagi kemudahan latihan para peserta yang menerima latihan yang sesuai dengan Standard Kualiti Kerja Nasional Indonesia (SKKNI). Peserta yang telah menyelesaikan latihan akan dianugerahkan dengan kelayakan sijil mengikut kesesuaian dengan kompetensi pekerjaan.

Kementerian Pendidikan dan Kebudayaan telah menghasilkan dokumen strategik di Kerangka Klasifikasi Indonesia (KKI). Berdasarkan Peraturan Menteri Pendidikan Tinggi, KKI ialah salah satu piawaian nasional di sektor pendidikan iaitu lulusan lembaga pendidikan dan latihan di bawah kuasa Kementerian Pendidikan dan Kebudayaan boleh menilai hasil pembelajaran mereka atau sijil kemahiran dalam pencapaiannya dengan suatu aras kelayakan yang relevan sesuai yang ditentukan oleh KKI.

Kerajaan Indonesia melihat penguatkuasaan peraturan KKI dalam konteks hukum dan peraturan lainnya: misalnya pada UU No. 13/2003 yang berkaitan dengan pembangunan sumber manusia, Peraturan Pemerintah No. 31/2006 tentang Sistem Pelatihan Kerja Nasional, dan UU no. 20/2003 sesuai dengan Sistem Pendidikan Nasional. KKI juga sehaluan dengan peraturan yang berlaku disokong oleh kementerian dan lembaga yang berkuasa mengenai kualiti tenaga kerja dan pengembangan pensijilan kompetensi (Kementerian Pendidikan dan Kebudayaan, 2013).

KKI seharusnya memberikan satu penanda aras untuk semua penyedia pendidikan dan latihan di Indonesia, terutama yang terlibat dalam usaha untuk mengarahkan pengangguran terhadap peluang pekerjaan yang sesuai. Ketika ini, sukar bagi pekerja untuk meningkatkan kelayakan mereka. KKI akan terus membincangkan isu ini dengan menetapkan aras kelayakan terhadap pekerja yang dapat dinilai. Mereka yang gagal mencapai aras yang diharapkan akan didorong untuk mengikuti pendidikan atau latihan. Bagi yang hasil pembelajaran atau pensijilannya tidak sesuai dengan penerangan KKI akan mampu melaksanakan penambahbaikan mutu dalaman untuk menjadikan kelayakan mereka sejajar dengan syarat yang dikenakan KKI.

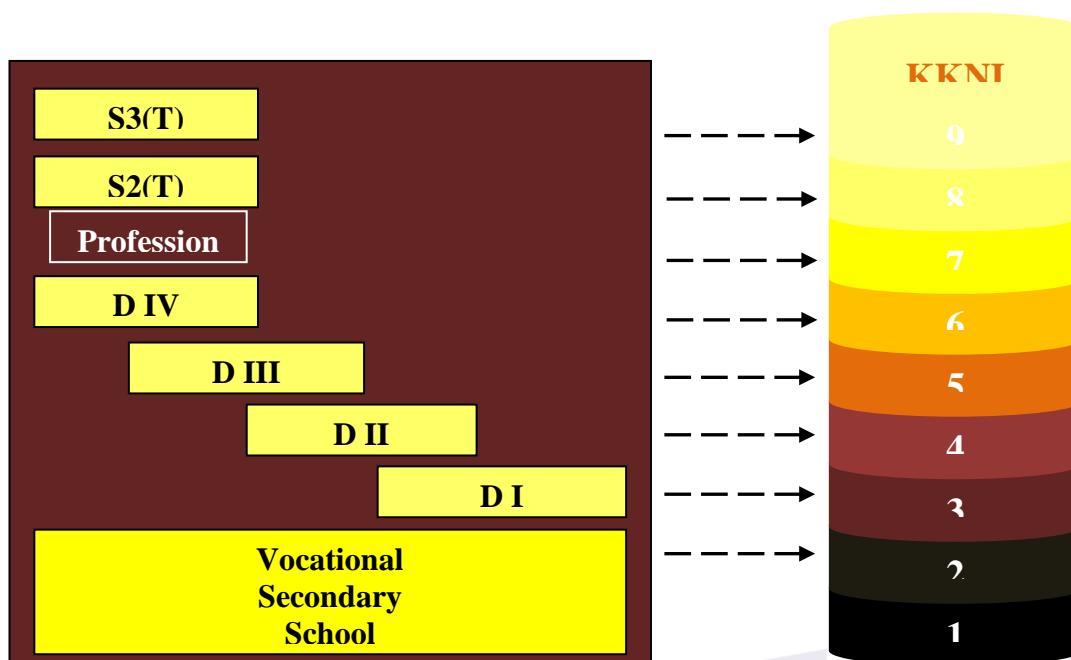
Umur	Tingkatan	Level	Formal		Pendidikan Kejuruan				Pendidikan Non-Formal
		Pendidikan tinggi	Program S3 Islami	Strata 3 Program	Program Spesialis 2				Universitas Terbuka
			Program S2 Islami	Strata 2 Program	Program Spesialis 1				
			Program S1 Islami	S1 Program	Diploma 4 Program	Diploma 3 Program	Diploma 2 Program	Diploma 1 Program	
22	16								
21	15								
20	14								
19	13								
18	12	Pendidikan Menengah	Pendidikan Menengah Agama (MA)	Sekolah Menengah Atas (SMA)		Sekolah Menengah Kejuruan (SMK)		Paket C	
17	11								
16	10								
15	9	Pendidikan Dasar	Islamic Low Secondary School (MT)	Sekolah Menengah Pertama (SMP/SLTP)				Paket B	
14	8								
13	7								
12	6			Sekolah Dasar (SD)				Paket A	
11	5								
10	4								
9	3								
8	2								
7	1								
6		Pendidikan Sebelum Sekolah	Taman Kanak-Kanak Islami	Taman Kanak-Kanak (TK)					
5									
4									

Strata 1, 2, 3 (S1, S2, S3) sama dengan sarjana muda, sarjana, Ph.D.

Rajah 1.1: IQF berdasarkan Pendidikan Formal, Pendidikan Vokasional, dan Pendidikan Tidak Formal (*Sumber: Kerangka Kualifikasi Indonesia (Direktorat Jendral Pendidikan Tinggi, Menteri Pendidikan Dan Budaya, 2012)*)

KKI terdiri dari 9 aras pencapaian dan dikategorikan berdasarkan hasil pembelajaran dan kompetensi kerja khusus. Huraian pada setiap aras menentukan hasil pembelajaran atau kompetensi yang dapat ditunjukkan oleh individu pada aras itu. Penjelasan ini dibahagi kepada dua kategori: umum dan khusus. Huraian umum meliputi keperibadian, sikap dan etika kerja, dan berlaku untuk setiap warga negara Indonesia di setiap peringkat. Huraian khusus menjelaskan pengetahuan dan keterampilan yang dikuasai oleh individu, dan khusus berdasarkan arasnya.

Rajah 1.2 menunjukkan skema rujukan antara hasil belajar aliran pendidikan yang berbeza daripada aras kelayakan KKI. Skema ini akan membuat lebih mudah untuk memastikan bahawa lulusan program-program pendidikan memiliki kompetensi yang tepat pada peringkat yang tepat.



Rajah 1.2 : Kerangka Klasifikasi Indonesia

Sumber: Kerangka Kualifikasi Indonesia (*Direktorat Jendral Pendidikan Tinggi, Kementerian Pendidikan dan Kebudayaan, 2012*)

Rendahnya kualiti sumber manusia Indonesia dilihat daripada aras pendidikan formal dan ini menyebabkan kebimbangan yang besar. Dengan waktu begitu yang terhad, kerajaan perlu mencari satu penyelesaian dan cara pantas untuk membangunkan kemahiran dan kompetensi sumber daya manusia yang bekerja untuk syarikat selaras dengan keperluan pasaran dan Masyarakat Ekonomi Asean (MEA) tidak hanya akan mematahkan sifat normatif seluruh undang-undang. Perlindungan melalui peraturan memang penting, tetapi untuk masa ini usaha yang jelas diperlukan kerana kita hanya mempunyai waktu yang terhad. Salah satu usaha yang dapat mengoptimumkan infrastruktur yang ada ialah dengan mengadakan bengkel-bengkel atau seminar untuk kemahiran tenaga kerja baru dan latihan untuk meningkatkan kualiti kumpulan pekerja yang ada. Sebagai perbandingan, Vietnam mula memberikan latihan Bahasa Indonesia kepada tenaga kerja masing-masing untuk menghadapi MEA tersebut. MEA tidak akan menyebabkan masalah dalam komunikasi kerana bahasa negara masing-masing berbeza. Pengenalan terhadap bahasa negara ASEAN lain atau mengukuhkan lagi penguasaan bahasa antarabangsa seperti bahasa Inggeris untuk pekerja atau masyarakat ialah usaha yang baik untuk mempersiapkan MEA tersebut.

Disebabkan oleh kemudahan pendidikan yang terbatas, ia akan memberi kesan pada kualiti tenaga kerja. Persaingan Sumber Daya Manusia (SDM) antara negara-negara ASEAN ialah hal yang pasti terjadi pada masa pembukaan *ASEAN Economic Community* (AEC) nanti. Ketika para pekerja Indonesia tidak bersedia untuk persaingan terbuka ini, MEA akan menjadi bencana bagi pekerja Indonesia kerana mereka tidak akan mampu bersaing dengan pekerja dari negara-negara ASEAN lain.

Kebelakangan ini, ketentuan pendidikan dan latihan di Indonesia masih berpecah-belah dan mempunyai piawai kualiti yang rendah. KKI bertujuan untuk menyelesaikan ini dalam rangka memenuhi tuntutan pasaran pendidikan yang semakin global. KKI akan meningkatkan kualiti kelayakan dan memperhalusi tahap mereka, yang membolehkan tenaga kerja ditempatkan secara lebih berkesan di kedua-dua sektor ekonomi formal dan tidak formal. Ini akan menentukan kesamarataan antara kelayakan Indonesia dengan pekerja asing, sehingga meningkatkan daya saing antarabangsa Indonesia dan membuat negara bersedia untuk perdagangan global.

Potensi lain yang dimiliki oleh Indonesia ialah jumlah penduduk. Populasi besar dari Indonesia boleh menjadikan kunci kejayaan bagi meningkatkan daya saing Indonesia dengan negara-negara lain. Dengan pendidikan dan kemahiran, maka produktiviti tenaga kerja akan dapat dipertingkatkan. Peningkatan produktiviti tenaga kerja pada akhirnya akan meningkatkan lagi daya saing peringkat nasional dan antarabangsa.

Faktor produktiviti akan menjadi kunci bagaimana Indonesia mampu menghadapi MEA. Secara logiknya, produktiviti ialah unsur utama dalam persaingan. Dengan produktiviti yang tinggi, pengeluaran dijangka menjadi lebih berkesan dan dapat memberikan harga yang lebih berdaya saing. Dengan kata lain, tidak hanya produktiviti yang dapat mengurangkan kos pengeluaran tetapi masukan bayaran juga boleh mengurangkannya (Romadiyanti et. al, 2008). Rendahnya kos tenaga kerja ialah faktor yang paling sering dipercayai oleh negara yang mempunyai kelebihan bandingan (Romadiyanti et. al, 2008). Selain itu, pemilikan sumber alam dan pasaran kewangan yang berkesan adalah faktor lain yang membawa kelebihan bandingan.

Untuk memenangi persaingan suatu negara boleh bergantung pada kelebihan bandingan atau kelebihan saingan. Singapura dan Malaysia ialah negara yang menjadikan daya saing yang unggul sebagai kelebihan saingan, sementara Brunei Darussalam dan Thailand menjadikan daya saing unggul sebagai kelebihan bandingan. Dalam kes negara Thailand, negara ini sudah mengarahkan strategi menuju kelebihan

saingan. Sementara itu, Filipina, Vietnam, dan Cambodia masih bergantung pada kemampuan bersaing dalam strategi perdagangan (Kusumaastuti, 2015).

Indonesia selalu mengutamakan kelebihan saingan dalam persaingan perdagangan di peringkat antarabangsa. Dengan kenaikan kadar upah, Indonesia tidak boleh lagi bergantung pada faktor tenaga kerja untuk memenangi persaingan perdagangan antarabangsa. Namun, Indonesia masih mempunyai kelebihan lain seperti tanah dan perairan yang luas, dan sumber alam yang masih banyak. Dengan kata lain, Indonesia masih mempunyai kemampuan untuk bersaing berbanding dengan negara lain. Demikian juga, pasaran dan pengeluaran berskala besar merupakan faktor penting dalam mengekalkan daya saing dan meningkatkan persaingan perdagangan antarabangsa.

Oleh sebab itu, perbandingan daya saing dengan negara-negara jiran seharusnya tidak hanya dibandingkan dengan tahap produktiviti tetapi juga boleh dibandingkan dengan faktor-faktor lain seperti infrastruktur, logistik, pelaburan, perusahaan kecil dan sederhana, dan pelbagai produk dan jumlah yang didagangkan antara negara ASEAN dan dengan seluruh dunia.



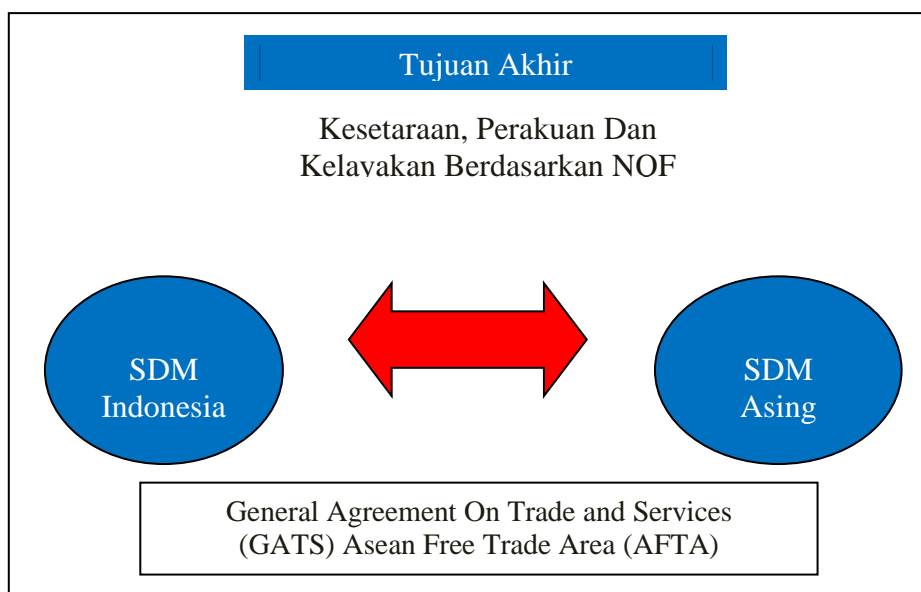
Rajah 1.3: Visi Dan Pembangunan Jangka Panjang

Sumber: Strategi Visi dan Misi RPJPN 2005-2025, 4 Langkah RPJMN (*Petunjuk Visi Dan Pembangunan Jangka Panjang / PJP 2005-2025*)

Pada RPJMN 3 (2015-2019): Kelebihan Persaingan Pembangunan Ekonomi (*Competitive Advantage*) berasaskan pada sumber alam, sumber manusia yang berkualiti dan kemampuan ilmu pengetahuan dan teknologi. Jika kita menyelidik secara mendalam SDM Indonesia berupaya mendapatkan kesetaraan dan pengiktirafan



kelayakan Kerangka Kelayakan Nasional (KKN) seperti yang ditunjukkan dalam rajah 1.3.



Rajah 1.4 : Kesetaraan piawaian merupakan tujuan utama bagi Sumber Daya Manusia (SDM)

Rajah 1.4 menunjukkan bagaimana Sumber Daya Manusia peringkat antarabangsa disetarakan dengan piawaian Sumber Daya Manusia Indonesia. Tenaga kerja Indonesia yang dihasilkan berkeelayakan daripada BNSP (Badan Pensijilan Nasional Professional) dengan harapan kesaksamaan dan mendapatkan layanan yang sama dengan sumber daya manusia asing. Penyertaan tenaga kerja wanita muda dijangka meningkat, disebabkan oleh manfaat daripada capaian yang lebih besar untuk pendidikan dan latihan, dan strategi harus diletakkan secara jelas untuk menyokong golongan wanita agar memanfaatkan peluang kerja yang muncul.

Situasi pengangguran di Indonesia dianggar akan tetap stabil atau meningkat sedikit, dengan kadar pengangguran dijangka tetap hampir dengan 6 peratus pada 2019 (Sembiring, 2019). Namun, dasar untuk menyokong peralihan 'sekolah ke alam pekerjaan' akan diperlukan untuk memudahkan hasil bagi golongan muda dan menghindari munculnya masalah struktur.

Bilangan orang yang bekerja sebagai pekerja diharapkan berkembang dan pekerjaan terdedah dijangka menurun. Secara khusus, jumlah orang yang bekerja sebagai pekerja dijangka akan meningkat sebanyak 14 juta pekerja pada 2019, dan pekerjaan terdedah diunjurkan menurun menjadi 51 peratus daripada jumlah bidang



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